State of Alabama
Department of Agriculture and Industries
1445 Federal Drive
Montgomery, Al 36107-1123

Ron Sparks
Commissioner

Mailing Address:
Post Office Box 3336

Prover Verification Checklist for Evaluation to NIST HB 105-3 Specifications:
(Go over the checklist before sending the prover to the laboratory for calibration)

Provers are large (> 40 L/10 gal) bottom-drain volumetric measures or small mounted provers that are bottom-drain, with or without a graduated bottom-neck (also called bottom-zero or wet-bottom). Provers may be free standing or permanently mounted on a truck, platform, or trailer.

1. The prover should have a metal identification plate firmly attached to the prover without the use of adhesives that contains the following information:

-The Manufacturer
-The Model Number
-The Serial Number
-The Nominal Capacity
-The Material and Thickness
-The Cubical Coefficient of Expansion (0.0000265/^{o}F for stainless steel)
-The Reference Temperature (60^{o}F for petroleum, 40^{o}F for milk tanks)
-Drain Time statement ("30 second drain after cessation of main flow")

At bare minimum, the identification plate should have:

-The Manufacturer
-The Model Number
-The Serial Number
-The Material
-The Cubical Coefficient of Expansion

2. The interior of the prover, together with its associated valves, piping, gauge, etc., shall be free of slag, scale, weld or solder splatter, grit, dirt, dents, interior rust, product residue, or any other foreign matter before submission for calibration. Provers can be cleaned with soap or detergent and water.

3. A gravity discharge line, between the prover and the shut-off valve, shall have a downward slope of at least 5^{o} from the horizontal plane. All gravity and pump discharge lines downstream from the shut-off valve shall be positioned so as to ensure complete emptying of the prover. A gravity discharge line shall consist of a length of pipe, and a fast-acting valve (e.g., butterfly).

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4. All mounted provers shall have provision made for observing fluid flow immediately upstream or downstream of the shut off valve. A sight-flow indicator is optional where flow can be visually observed and discharge hose length is relatively short.

NOTE: Means for visually observing fluid flow and the empty condition and drain time on a prover is critical for accurate volumetric determination. Listening for a change in the pump sound to indicate a drained condition is not adequate. It is reliant on the operator's hearing and experience and does not encourage proper drain times.

5. All bottom-drain test measures and provers shall be equipped with two, non spring loaded, adjustable spirit levels mounted at right angles to each other, on the upper cone or where best visible from a standing position. Each level shall be mounted on a sturdy shelf and be equipped with a protective cover. The adjusting screws shall have provisions for sealing.

NOTE: A "bull's-eye" level is permitted in lieu of two spirit levels, if the level, in combination with prover design, has sufficient sensitivity to ensure proper reading of the liquid level in the standard. Vehicle or trailer mounted provers may have auxiliary levels mounted at a lower plane for operator convenience in adjusting leveling jacks. Primary levels on the prover should be used to adjust auxiliary levels and as a reference; auxiliary levels are only to be used for coarse leveling.

6. A ladder and expanded metal platform (with appropriate safety hand rails), when required, shall be secure and designed to support the operator while reading or servicing the neck-gauge assembly. The ladder shall be so constructed that there is no distortion of the prover when the ladder is in use. Ladder rungs should be constructed of a nonslip material.

7. The interior surface of standards made of low carbon steel shall be corrosion resistant or coated with a suitable material which will be impervious to the liquids for which the standard will be used.

The exterior surface of field standards made of low carbon steel shall be properly primed and coated with a glossy finish or a color which is reflective and prevents any unnecessary heating of the product within the prover and that is impervious to the liquids for which the standard will be used.

If a standard is to be used for measurements of edible products, such as water or milk, governmental regulations regarding surface finish shall apply.

8. Make sure that there are no leaks anywhere on the prover. Leaks often occur around the sight glass or any welding points. If there are leaks at a welding point, have the prover repaired before being brought for calibration. If there are leaks around the sight glass, bring any replacement materials that may be needed for repair.